

AMENDMENTS TO THE CLAIMS

Please amend the claims as indicated below.

1. (Currently Amended) A mixture free of isocyanate-reactive functional groups, containing, as the sole or predominant reactive functional groups, at least one of (A) and (B):
 - (A) isocyanate groups and no groups activable with actinic radiation, and
 - (B) isocyanate groups and groups activable with actinic radiation, as the sole or predominant reactive functional groups; and

wherein the mixture comprises of at least three initiators activable by actinic radiation, selected from the group consisting of a combination of unimolecular (type I) and bimolecular (type II) photoinitiators selected from the group consisting of benzoins, benzoin ethers, benzil ketals, acylphosphine oxides, bisacylphosphine oxides, phenylglyoxylic esters, camphorquinone, alpha-aminoalkylphenones, alpha,alpha-dialkoxyacetophenones, and alpha-hydroxyalkylphenones, wherein the mixture shows no increase in viscosity after 28 days at 60°C in the dark.
2. (Original) A mixture as claimed in claim 1, wherein the actinic radiation is UV radiation or electron beams.
3. (Canceled).
4. (Canceled)
5. (Currently Amended) A mixture as claimed in claim 41, wherein the photoinitiators comprise of type I is selected from the group consisting of benzophenones in combination with tertiary amines, alkylbenzophenones, 4,4'-bis(dimethylamino)benzophenone (Michler's ketone), anthrone, and halogenated benzophenones, and the photoinitiator of type II is selected from the group consisting of benzoins, benzoin derivatives, especially benzoin ethers, benzil ketals, an acylphosphine oxides, especially 2,4,6-trimethylbenzoyldiphenylphosphine oxide, bisacylphosphine oxides, a phenylglyoxylic esters, camphorquinone, alpha-aminoalkylphenones, alpha,alpha-dialkoxyacetophenones, and an alpha-hydroxyalkylphenones.

6. (Previously Presented) A mixture as claimed in claim 1, wherein the groups activable with actinic radiation contain at least one bond which can be activated with actinic radiation.

7. (Original) A mixture as claimed in claim 6, wherein the bond which can be activated with actinic radiation is selected from the group consisting of carbon-hydrogen and carbon-halogen single bonds, carbon-carbon, carbon-oxygen, carbon-nitrogen, carbon-phosphorus, and carbon-silicon single bonds and double bonds, and carbon-carbon triple bonds.

8. (Previously Presented) A mixture as claimed in claim 7, wherein the bond which can be activated with actinic radiation is a carbon-carbon double bond.

9. (Original) A mixture as claimed in claim 8, wherein the bond which can be activated with actinic radiation is present in a group activable with actinic radiation, selected from the group consisting of (meth)acrylate, ethacrylate, crotonate, cinnamate, vinyl ether, vinyl ester, dicyclopentadienyl, norbornenyl, isoprenyl, isopropenyl, allyl, and butenyl groups; dicyclopentadienyl ether, norbornenyl ether, isoprenyl ether, isopropenyl ether, allyl ether, and butenyl ether groups; and dicyclopentadienyl ester, norbornenyl ester, isoprenyl ester, isopropenyl ester, allyl ester, and butenyl ester groups.

10. (Original) A mixture as claimed in claim 9, wherein the group which can be activated with actinic radiation is an acrylate group.

11. (Previously Presented) A mixture as claimed in claim 1, wherein the isocyanate-reactive functional groups are selected from the group consisting of hydroxyl groups, thiol groups, primary and secondary amino groups, and imino groups.

12. (Previously Presented) A mixture as claimed in claim 1, wherein the isocyanate groups or the isocyanate groups and the groups which can be activated with actinic radiation are the sole reactive functional groups present in the mixture.

13. (Canceled)

14. (Currently Amended) A two-component or multi-component system comprising at least one initiator activable by actinic radiation and comprising

(I) at least one component free of isocyanate groups, containing groups activable with actinic radiation and isocyanate-reactive functional groups as the sole or predominant reactive functional groups, wherein a reactive diluent is present containing at least two free-radically polymerizable double bonds, and

(II) at least one component free of isocyanate-reactive functional groups and comprising, as the sole or predominant functional groups, at least one of (A) and (B):

(A) isocyanate groups and no groups activable with actinic radiation, or

(B) isocyanate groups and groups activable with actinic radiation,
as the sole or predominant functional groups;

in which wherein the solids content of component(s) (I) is 25 to 75 wt.% and wherein the ratio (I):(II) is such that the equivalents ratio of isocyanate-reactive functional groups in component(s) (I) to the isocyanate groups in component(s) (II) is from 0.5:1 to 1:0.5, wherein component(s) (I) and (II) contain their constituents in the form of molecularly dispersed solutions in organic solvents;

wherein all or most of a mixture of at least three initiators activable with actinic radiation is present in component(s) (II), and the mixture of at least three initiators is selected from the group consisting of a combination of unimolecular (type I) and bimolecular (type II) photoinitiators, wherein each initiator is present in an amount of 0.5 to 7% by weight, based on the solids in a dual cure composition formed from component(s) (I) and (II); and

wherein component(s) I show no change in viscosity after 28 days in the light or dark at 40°C, and component(s) II show no increase in viscosity after 28 days at 60°C in the dark; and

wherein the dual cure composition after having been cured has a storage modulus E' in the rubber-elastic range of at least $10^{7.5}$ Pa and a loss factor tan δ at 20°C of not more than 0.10, as measured by dynamic mechanical thermoanalysis on free films having a thickness of 40 μm.

15. (Original) A system as claimed in claim 14, wherein all of the initiator activable by actinic radiation is present in component(s) (II).

16. (Previously Presented) A system as claimed in claim 14 , wherein the groups which can be activated with actinic radiation and the isocyanate-reactive functional groups are the sole reactive functional groups present in component(s) (I).

17. (Previously Presented) A system as claimed in claim 14, wherein the isocyanate groups or the isocyanate groups and the groups which can be activated with actinic radiation are the sole reactive functional groups present in component(s) (II).

18. (Previously Presented) The system as claimed in claim 14, wherein the equivalents ratio of isocyanate-reactive functional groups in component(s) (I) to the isocyanate groups in component(s) (II) is from 0.5:1 to 1:0.5.

19. (Currently Amended) A process for preparing a two-component or multicomponent system of claim 14 comprising an initiator activable by actinic radiation, the process comprising separately preparing components (I) and (II), ~~wherein components (I) and (II) comprise (I) at least one component free of isocyanate groups, containing groups activable with actinic radiation and isocyanate reactive functional groups as the sole or predominant reactive functional groups and (II) at least one component free of isocyanate reactive functional groups and containing isocyanate groups and no groups activable with actinic radiation or isocyanate groups and groups activable with actinic radiation as the sole or predominant reactive functional groups and adding all or most of a mixture of three initiators activable by actinic radiation to component(s) (II) ;, wherein the mixture of at least three initiators is selected from the group consisting of a combination of unimolecular (type I) and bimolecular (type II) photoinitiators.~~

20-25. (Canceled)

26. (Previously Presented) A coating as claimed in claim 25 comprising a clearcoat coating.

Claims 27-28. (Canceled)

29. (New) The system of claim 14 wherein the reactive diluent contains at least four free-radically polymerizable double bonds.

30. (New) The system of claim 14 wherein the reactive diluent comprises pentaerythritol tetraacrylate, dipentaerythritol pentaacrylate, or a combination thereof.